

AMENDMENTS TO THE SPECIFICATION:

Please replace paragraph 13 with the following amended paragraph:

This has been partly solved in WO 00/38466 by modifying the candidate set. User equipment location and velocity information is used to estimate the weighted probability of the user equipment arriving in neighboring cells. "Bias values" are then produced for the measurements for the cells that the user equipment is more likely to be entering in or be located in. These bias values are used to modify the signal quality~~Thus, said measurements for the~~
~~cells, are modified and thus also to help determine the choice on which cells should be~~
~~included or removed in the candidate set is modified.~~ A disadvantage with this bias value
approach is that long messages containing the neighboring cells have to be sent, creating
additional ~~occupying the traffic in the cell.~~ Further, this approach ~~it~~ still requires a lot of calculations in the user equipment in addition to a lot of measurements.

Please replace paragraph 15 with the following amended paragraph:

In systems using FDMA (Frequency Division Multiple Access) or TDMA (Time Division Multiple Access), such as GSM (Global System for Mobile communications) different sets can also be considered to be used, even if that terminology is not used. However, what may be called the active set then includes only one cell, since only hard handover is used. Further, there is no distinction between a neighbor set and a candidate set. In EP 0 986 279, ~~is shown an invention where the neighbor cell list sent from the system consists of two parts: First a first part~~
~~with information on cells in a higher cell hierarchy, i.e. larger cells, and then. Then a second part~~
~~with information on cells in a lower cell hierarchy, i.e. smaller cells. The second part is modified~~
~~depending on where the user equipment is positioned. Also in this application, each "active set"~~
~~(i.e. serving cell) is associated with a predefined corresponding "candidate set", giving the same~~
~~disadvantages.~~

Please replace paragraph 16 with the following amended paragraph:

~~In US 6131030 shows is shown~~ how cell handover information such as neighbor cell lists can be transferred in different parts of the system.

Please replace paragraph 18 with the following amended paragraph:

~~According to the invention a~~ A controller, such as e.g. a radio network controller, base station controller or similar, is arranged to receive information related to whole or part of a velocity vector including position, speed and direction from the user equipment. The controller is arranged to create a filtered neighbor cell list by filtering a neighbor cell list associated with an active set that the user equipment is using. This~~Said~~ filtering depends ~~is made depending on~~ the~~said~~ velocity vector related information. The controller is arranged to transmit the filtered neighbor cell list to the user equipment, thereby enabling measurement of pilot signal strength for cells in the filtered neighbor cell list.

Please replace paragraph 19 with the following amended paragraph:

An advantage with this approach~~the invention~~ is that the message that the controller sends with the filtered neighbor cell list is shorter than it would have been without filtering. This occupies less of the radio interface~~less~~. Further, the user equipment need not measure pilot signal strength for so many cells, but only for the most important cells and can thereby make the measurements more frequently. ~~Further, a greater~~ Greater flexibility is achieved; since the filtered cell list may be updated also between handovers.

Please delete paragraph 20:

~~The invention will now be described in greater detail with reference to enclosed Figures.~~

Please replace paragraph 21 with the following amended paragraph:

Figures~~Figure~~ 1a and b shows~~shows~~ a radio network system with different cell sets indicated;

Please replace paragraph 22 with the following amended paragraph:

Figure 2 shows cells on different hierarchical levels;

Please replace paragraph 23 with the following amended paragraph:

Figures~~Figure~~ 3a and b shows~~shows~~ a radio network system with different cell sets indicated, e.g. a filtered neighbor set ~~according to the invention;~~ and

Please replace paragraph 29 with the following amended paragraph:

In Figure 1a is also shown a user equipment (UE) 29, which may be e.g. a mobile terminal by which a user can access services offered by the core network 1. In Figure 1a the UE 29 is communicating simultaneously with two BSs 25, 27 that thus serves an active set 30 of cells 9, 14. To make Figure 1a clearer, different cell sets are also shown separately in Figure 1b, with hatched markings. The active set 30 is there marked with horizontal lines.

Please replace paragraph 33 with the following amended paragraph:

~~Figures~~ Figure 1a and b only ~~shows~~ shows cells on the same hierarchical level, but of course the cell sets may include cells from different hierarchical levels, i.e. e.g., both microcells and macrocell.

Please replace paragraph 38 with the following amended paragraph:

Further, in a network with cells using different radio access technologies (RAT) on different hierarchical levels it may be advantageous for the RNC to have information on the ~~which type of a certain cell, is of~~ where type in the means meaning of using a certain RAT. Further, if the operator of the network cooperates ~~co-operates~~ with the operator of with another network, and there thus may be neighboring cells belonging to different networks, then it may be advantageous for the RNC to have information on which network a cell belongs to. Also other information may be used for the filtering. How the information may be used will be described below.

Please replace paragraph 39 with the following amended paragraph:

~~Figures~~ Figure 3a and 3b ~~b~~ are similar to ~~is the same as Figure~~ Figures 1a and 1b. However, as an example, it may be noted that ~~the~~ The UE 29 positioned in cell 5 is far from cells 5 and 6. Thus, there is no need for making measurements for the neighbor cells 5 and 6. Thus, the RNC 3 can filter the neighbor set and transmit only a filtered neighbor set 32 without the cells 5 and 6.

Please replace paragraph 42 with the following amended paragraph:

In ~~Figures~~ Figure 3a and 3b, it might be possible to filter out also cell 10, but if the adjacent cell 13 is filtered out because the UE is moving in almost the opposite direction, there may be a problem if the UE suddenly turns and travels in the opposite direction. Since cell 13 is very near, it is probably on the edge of becoming included in the candidate set. The reason that it is not already included in the candidate set is probably that the pilot signal from cell 19 for some reason is stronger than that from cell 13, which might happen even though cell 13 is closer geographically.

Please replace paragraph 43 with the following amended paragraph:

According to one example embodiment, the filtering can thus be made dependent on the position of the UE, as in ~~Figures~~ Figure 3a and 3b. A distance threshold may be set, and cells lying further away may be filtered out. An alternative is to filter out cells not lying within a specified area. A further alternative is to set a level threshold on pilot signal strength and filter out the cells having with a pilot signal strength below said level threshold. The last alternative, however, requires that an earlier measurement have been made on pilot signal strength. A disadvantage with the last alternative is that said earlier measurement might not be sufficiently up to date and there is a danger that this may cause that interesting cells are unnecessarily excluded. The advantages may be bigger if combined with the geographically near alternative.

Please replace paragraph 44 with the following amended paragraph:

In another example embodiment, the direction of the UE is also taken into account, as in ~~Figures~~ Figure 3a and 3b. In the latter, for one extreme case, only the cell or cells lying in the opposite direction of the direction that the UE is moving are filtered away. In the other extreme case only the cell or cells lying in the same direction as that the UE is moving are kept in the filtered neighbor set. Of course all variants in between are possible.

Please replace paragraph 46 with the following amended paragraph:

According to a further embodiment, when there are cells on different hierarchical levels as in Figure 2, the filtering may be made differently on different hierarchical levels depending on

the speed of the UE. If the UE is moving fast, then larger cells, such as macrocells, ~~become~~becomes more important than smaller cells, such as microcells and picocells. Since the UE will stay only for a short while in the smaller cells, ~~then~~ it is not of much use to handover to them. Thus, it is not of much use to measure the pilot signals of the smaller cells either. Thus, the faster the UE is moving, the more the larger cells should be prioritized, and thus, the more the smaller cells should be filtered out. If on the other hand, the UE is moving slowly or ~~being~~is still, it may be ~~more~~ advantageous to use microcells and picocells. A simplified version ~~would~~could be to have a speed threshold. Above the speed threshold, e.g., microcells and picocells are filtered out, but macrocells are kept. Below the speed threshold, e.g., macrocells are filtered out, but microcells and picocells are kept.

Please replace paragraph 47 with the following amended paragraph:

How is the RNC going to know which velocity vector a UE has? There are several solutions to that and a few will be mentioned. According to one embodiment, for the position it is possible to use Global Positioning technology (GPS). There exists a network assisted GPS (A-GPS), in which the network transmits some information to the UE, thus making ~~enabling to~~ ~~make~~ the GPS function in the UE less complicated.

Please replace paragraph 48 with the following amended paragraph:

Another embodiment for estimating the position is to measure the round trip time (RTT), i.e., the time it takes for a signal to travel from a BS to the UE and back. This will give the distance from the BS. In the case of using one BS per cell, this will ~~thus~~ give a circle on which the UE may be. In the case of using one BS for more than one cell, this will ~~thus~~ give a circle segment on which the UE may be. This may be enough to exclude e.g. picocells lying far from the circle. To obtain a more accurate position, it is possible to measure the RTT relative to at least two BSs, which will give a crosspoint.